
**Drinking Water and Groundwater
Protection Division**

Regional Office Program Up-Date

April 2014

State of Vermont

Agency of Natural Resources

Department of Environmental Conservation

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What will you find in this issue?

Licensed Designer Class A Field Exam

Licensed Designer Class B Written Exam

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**Licensed Designers Class A Field Exam and Class B
Written Exam:**

The Class A field exam for those who passed their Class A written exam will be given May 28, 2014 at a location to be determined.

The Class B written exam for those who passed their Class A exam will be given on August 13, 2014 at St. Leo's Hall located behind the St. Andrew Catholic Church at 109 South Main Street, Waterbury, VT.

More information regarding the upcoming exam schedules can be found at:

<http://www.anr.state.vt.us/dec/dwgwp/designerlicensingexams.htm>.

DEC will be sponsoring two training sessions at the end of the month. One session will be on soils and will be a 4 credit course and the second will be on shoreland protection and will be a 2 credit course. More information for these and other courses can be found at:

<http://www.anr.state.vt.us/dec/dwgwp/designerlicensingtraining.htm>

Please visit our web site for more information regarding the Licensed Designer Program at:

<http://drinkingwater.vt.gov/designerlicensing.htm>.

Please contact Julie Campbell at (802) 585-4911 or email at Julie.campbell@state.vt.us if you have any questions.

Loan Program:

The loan program is operational accepting applications for low income loans to repair or replace failed wastewater systems or water supplies. The loan is available to owners of one single family residence on its own individual lot provided the loan recipient lives in the residence year round. There are other eligibility requirements that a loan recipient must meet.

Please contact Bryan Redmond, Program Manager, at 802-585-4900 for more information or visit:

<http://drinkingwater.vt.gov/fundingonsiteloan.htm>

Wastewater Strength:

The Program with assistance by the Technical Advisory Committee created the document called “High Strength (Non-Domestic) Wastewater Considerations”. The document can be found at:

<http://drinkingwater.vt.gov/ro/pdf/highstrengthwwoutreachdoc.3.28.2014.pdf>.

We are aware that some wastewater systems fail due more to the characteristics and strength (BOD and TSS) of the wastewater than to soil/site limitations or age of the system. Table 1, Table 2, or Table 3 of Section 1-808 of the Rules establish flow quantities for many for establishments. Sections 1-808(c) and (d) also state that the strength of the wastewater must be considered when adjusting flows based on water meter data or for establishments not listed in one of the Tables above.

The purpose of the document is to provide guidance when designing a wastewater system that we know or suspect will receive moderate to high strength wastewater. We recommend the use of the document when designing any leachfield that is designed to dispose of moderate to high strength wastewater even if there are design flows in Tables 1 thru 3. We may also require the use of the design data contained in the document for the design of replacement wastewater systems when it is suspected the existing wastewater system failed due, in large part, to the strength of the wastewater.

Please note that we found wastewater from slaughterhouses and discharges that contain a high percentage of coffee or tea are high strength and major contributors to the failure of wastewater systems. Other type establishments of concern are restaurants and bakeries. Please share the high strength wastewater document with your clients who may own establishments generating high strength wastewater that discharge to a soil based wastewater system.

Project Technical Review Checklist

Some years back the Program sent out a checklist of items that we often found were deficient or lacking at the time of filing a permit application and related design information. The attached Technical Checklist is a compilation of items that are necessary to include on the design plans for water supplies and wastewater systems per Section 1-305 and Appendix 6-A of the Rules. The checklist is sectioned into items to provide clarity first what is necessary on all site plans, then for a soil-based wastewater system; for a water source; for municipal sewers and sewer connections; for municipal water services; and finally items we consider are major deficiencies.

Most applications submitted are complete and we may only have a few questions before issuing a permit. There is a second area of concern that some applications are administratively complete but the technical information is very insufficient to even begin a review. This serves neither one of us well, you may feel we are conducting insufficient reviews that delay a project and we feel we are receiving different designs that raise new questions for each response to our review letter.

The development of the technical review checklist is a means to assist us both and, more importantly, your client. We are interested to work with you to create an application checklist and process that will provide consistency for plan creation and plan review with the goal of greatly reducing our requests for additional information. Please review the attached checklist and offer suggestions and comments on a better way for us to work together.

IA Compliance Initiative:

Christina Russo, our Compliance Initiative Coordinator, will be full time with the Program beginning May 12, 2014 although she will need to spend some time after May 12 to help train the new compliance person hired for the Public Drinking Water Program.

TECHNICAL CHECKLIST

(Last Revised 04-21-2014)

The Wastewater Management Division created the Technical Checklist to provide a list of information that the Wastewater System and Potable Water Supply Rules states should be part of each application. This checklist is to give you, the designer, the ability to review your project for completeness prior to submission to the Division and, in the event you find a deviation from the checklist, an opportunity to advise why such information is either lacking or unnecessary for our review rather than the Division generating a review letter requesting such information.

I. Required on all site plans:

1. Legend or clear identification of all plan features;
2. North arrow;
3. Preparer's signature (even if the designer has a stamp) on drawing with plan identification, date and revision dates;
4. Plan scale as required by Rule including graphic representation for all scaled drawings;
5. All existing and proposed boundary dimensions;
6. Lot numbers or unique lot designations for subdivisions involving two or more lots;
7. Existing and proposed easements, right-of-ways, driveways, roadways;
8. Existing and proposed water and sewer utilities;
9. Overshadowing per Act 145;
10. Existing and proposed structures;
11. Existing and proposed water supplies with well presumptive separation zones;
12. Designated Well Head Protection Area (WHPA) within project area;
13. Existing and proposed wastewater systems or areas;
14. Surface water courses including but not limited to streams, lakes, water impoundments within the project area;
15. Surface and subsurface storm water structures including infiltration basins, catch basins, water impoundments;
16. Wetland boundary and preferably the 50 foot buffer zone that may be required by the Water Quality Division; and
17. Designated floodplain and floodway within the project area.

II. Soil-based wastewater systems:

A. Plans:

1. Project benchmark;
2. Overshadowing or Isolation zones;
3. Existing and proposed footing drains, curtain drains, and drainage tiles;
4. Existing and proposed contours at intervals as required by Rule;
5. All proposed primary wastewater disposal systems with distribution piping;
6. All replacement areas and type (i.e. mound, at-grade, in-ground);
7. All soil test pit locations and labels;
8. All percolation test locations and labels;
9. All proposed wastewater system components;
10. All proposed and existing ground water monitor locations and labels;
11. Existing and proposed surface water diversion ditches and swales;
12. Site limitations such as ledge outcrops; and

13. All wastewater system and replacement area shields;

B. Details:

1. Vertical cross-section view of the wastewater disposal system with bottom trench, invert piping and top of field relative to original and proposed ground surface;
2. Proposed curtain drains;
3. Septic tank detail including effluent filter and manufacturer;
4. Septic tank piping inverts;
5. Grease trap with piping inverts;
6. Pump station;
7. Storage tank;
8. Dosing siphon;
9. Sewer/force main trench;
10. Special construction for crossing wetlands, streams, etc.;
11. Distribution box;
12. Innovative/Alternative systems;
13. Manhole and/or cleanout;
14. Sewer/water crossover; and
15. Erosion control where applicable.

C. Supporting Documents:

1. Basis of design;
2. Calculations for sizing wastewater system components;
3. Calculations to demonstrate bottom of disposal system maintains proper vertical separation to limiting soil conditions;
4. Hydrogeologic or performance based calculations;
5. Soil descriptions and percolation test results corresponding to site plan;
6. Ground water monitoring results corresponding to site plan;
7. Sand fill specifications for mound systems and sand filters;
8. Pipe size and material;
9. Force main testing;
10. Building sewer and sewer collection system leakage testing procedures for projects connecting to a municipal sewer collection system or system having an Indirect Discharge Permit;
11. Grease trap sizing calculations; and
12. Written basis for variances allowed by Rule.

III. Sources for use as part of a potable water supply:

A. Plans

1. Project benchmark;
2. Isolation distances;
3. Sources of contamination;
4. Existing contours; and
5. All well shields.

B. Details

1. Well construction;
2. Pipe size and material except for a water supply supplying water to one single family residence;
3. Water trench except for a water supply supplying water to one single family residence; and
4. Sewer/water crossover.

C. Supporting Documents

1. Basis of design and project design flow calculations;
2. Water quality testing results;
3. Well yield and method of testing;
4. Pressure and leakage testing procedures of distribution system;
5. Disinfection procedure;
6. Surrounding well logs to demonstrate availability of water;
7. Interference testing results; and
8. Written basis for variances allowed by Rule.

IV. Required for municipal wastewater collection projects:

A. Plans:

1. Building sewer with minimum pipe slope;
2. Sewer collection system plan and profile with invert pipe elevations;
3. Force main plan and profile with invert pipe elevations;
4. Pump station; and
5. Storage tank.

B. Details:

1. Manhole and cleanouts;
2. Wastewater trench;
3. Storage tank;
4. Municipal service connection;
5. Air release valves; and
6. Sewer/water crossover.

C. Supporting Documents:

1. Basis of design;
2. Calculations and/or sizing of wastewater system components;
3. Sewer pipe material and size;
4. Force main testing procedures;
5. Building sewer, sewer collection and force main leakage testing procedures;
6. Municipal approval letter; and
7. Written basis for variances allowed by Rule.

V. Municipal water distribution site projects:

A. Plan:

1. Water service distribution system;
2. Profile except for a water service piping serving one single family residence; and
3. Storage tank or booster pump station.

B. Details:

1. Storage tank;
2. Water trench except for a water service piping serving one single family residence;
3. Municipal service connection except for a water service piping serving one single family residence; and
4. Sewer/water crossover.

C. Supporting Documents:

1. Basis of design;
2. Sizing of water system components;
3. Water pipe material and size;
4. Pressure testing method and calculations;
5. Disinfection procedure;
6. Municipal approval letter;
7. Water Supply approval letter; and
8. Written basis for variances allowed by Rule.

VI. Major Deficiencies:

This section pertains to the items that are critical in determining if a proposed project is in compliance with the Rules.

1. Existing and proposed contours for a soil based wastewater systems and water sources;
2. Presumptive zones for a water sources and leachfields;
3. Designated primary and/or replacement soil based wastewater disposal area;
4. Soil testing performed with corresponding soil descriptions and identification;
5. Percolation testing performed with corresponding test results and identification;
6. Written request and basis for variances when allowed by Rule;
7. Basis of design calculations and design flow calculations for sizing of wastewater system components;
8. Basis of design calculations and design flow calculations for sizing the water system components (except for one source serving one single family residence);
9. Hydrogeologic or performance based analysis;
10. Ground water monitoring results;
11. Isolation distance between a proposed wastewater system and existing and proposed water supply(s);
12. Isolation distance between a proposed water supply system and existing and proposed wastewater disposal system(s);
13. Isolation distances to surface waters; or
14. Vertical separation distance between the bottom of a soil-based wastewater system and limiting soil condition.

VII. Recommendations:

The Wastewater Management Division often interacts with other State of Vermont Departments or Divisions. These Departments or Divisions may have overlapping jurisdiction for the final approval of the water supply or wastewater system. It is recommended that each appropriate Department or Division be contacted prior to final submission of plans where there may be overlapping jurisdiction with regards to the building, water supply, or wastewater system location or the design of the water supply or wastewater system. Please be advised that we may also contact other Departments or Divisions during the course of our review for their concurrence that the location or the building, water supply, or wastewater system are acceptable as shown on the plans submitted to our Division.